

Application No. 10/627,491
Response to Office Action of July 13, 2004

REMARKS/ARGUMENTS

In the Office Action of July 13, 2004, claims 1-19 stand rejected. In this response claims 1, 6-8, 11-12 and 16-18 have been amended. Claims 3-5, 9, 10 and 13-15 have been cancelled. New claims 20-26 have been added. Reconsideration and allowance of all pending claims are respectfully requested in view of the following remarks. No new subject matter is being added by this response.

I. DRAWINGS.

Corrections to FIG. 3 have been submitted. Acceptance by the Examiner is requested.

II. CLAIM REJECTIONS.

A. 35 U.S.C. § 103 Rejections.

To establish a prima facie case of obviousness under 35 U.S.C. § 103, three requirements must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. 2143. Because the Examiner has not established a prima facie case of obviousness the Applicant respectfully traverses this rejection.

1. Onken in view of known art.

Claims 1-19 stand rejected under 35 U.S.C. § 103, as obvious under U.S. Patent No. 6,163,744 to Onken (*Onken*) in view of Applicants' Admitted Prior Art (AAPA). Applicants respectfully traverse these rejections.

Onken discloses a method for automatically resolving discontinuities that occur when an aircraft is maneuvered off course from a planned flight path. A discontinuity is a flight path that is incomplete and can not be followed continuously to the end. (Col. 3, lines 31-37). To resolve the discontinuity, *Onken* uses a search-and-selection procedure along with a navigational database. (Col. 3, lines 47-51).

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Considering Claim 1, *Onken* does not disclose, teach or suggest the step of "choosing a first waypoint from the waypoints of the pre-planned lateral route as a new candidate active waypoint if the aircraft is on the to side of the wayline of the first waypoint" or "choosing a second waypoint from the waypoints of the pre-planned lateral route as a new candidate active waypoint, the second waypoint following after the first waypoint, if the aircraft is between the wayline of the first waypoint and the wayline of the second waypoint." While *Onken* describes criteria for its search algorithm (Col. 3, line 6 to Col. 4, line 32), it does not disclose a selection of waypoint to return to the waypoints are part of the original flight plan. Instead, *Onken* determines a new flight path with new waypoints "the flight path up to this point is expanded by new path elements". (Col. 3, lines 60-61).

Additionally, the Examiner noted that *Onken* fails to disclose, teach or suggest that the next proximate waypoint will be an active waypoint. The Examiner indicates that this is shown in Applicants Admitted Prior Art (AAPA). Note that the AAPA referred to by the Examiner states that waypoints are selected manually in the prior art. Thus, any combination of *Onken* and AAPA would result in a system that needs manual intervention to choose waypoints. Thus, the proposed combination would result in a manual selection of successive waypoints and, therefore, does not teach all of the limitations of claim 1. Therefore, this rejection should be withdrawn.

Considering claim 2, the Examiner indicates that it would be obvious to give the pilot a choice to select the new path or the old path. However, in *Onken*, giving the pilot a choice is never disclosed. Indeed, *Onken* is drawn to an automatic method to eliminate discontinuities, thus teaching away from providing a pilot choice (Column 6, lines 19-27). Since there is no teaching or suggestion to include a pilot choice, this rejection should be withdrawn.

Considering claims 3-5, these claims have been cancelled, making the rejection moot.

Considering claim 6, claim 6, as amended, recites in part "the new candidate active waypoint is a down-path waypoint that results in a low recapture bank angle." The Examiner indicates that this limitation can be found in *Onken* at Col. 8, lines 53-67 to Col. 9, lines 1-16. However, these sections disclose determining a final approach and not recapturing a waypoint of the original flight plan. For at least this reason, claim 6 is in condition for allowance.

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Considering claim 7-8, the Examiner argues that *Onken* discloses a virtual waypoint at Col. 8, lines 54-67 and Col. 9, lines 1-20 and Figs. 8-10. *Onken* fails to disclose, teach or suggest a virtual waypoint "associated with the new candidate active waypoint." as in amended claim 7. Also, *Onken* fails to disclose, teach or suggest a virtual waypoint that provides "an intercept course to the new candidate active waypoint", as disclosed in amended claim 8. Therefore, claims 7 and 8 are in condition for allowance.

Claim 9 has been cancelled.

Considering claim 10, claim 10 has been cancelled rendering the rejection moot. All pending claims that depend from claim 10 have been rewritten as to depend from new claim 20.

Considering claims 11-12, the Examiner states that *Onken* teaches modifying the pre-planned route to include new candidate waypoint and that temporarily storing data is known in the art. Claims 11-12 have been amended to depend from new claim 20. As will be discussed later, claim 20 is allowable, therefore, claims 11-12 are allowable.

Claims 13-15 have been cancelled rendering this rejection moot.

Claim 16 stands rejected for the same reason as claim 6. For at least the reasons already discussed, claim 16 is in condition for allowance.

Claims 17-18 stand rejected for the same reason as claims 7-8 and for at least the reasons already discussed, claims 17-18 are in condition for allowance.

Claim 19 stands rejected for the same reason as claim 2. For at least the reasons already discussed in conjunction with claim 2, claim 19 is allowable.

III. NEW CLAIMS.

New claims 20-26 have been added. No new mater has been added.

Considering claim 20, as discussed in conjunction with amended claim 1, *Onken* fails to disclose teach or suggest "a means for selecting a first waypoint from the waypoints of the pre-planned lateral route of flight as a new candidate active waypoint". As discussed previously, *Onken* determines a new flight path with new waypoints "the flight path up to this point is expanded by new path elements". (Col. 3, lines 60-61). Further, *Onken* does not disclose, teach or suggest the selection of the waypoints when "the aircraft is outside a predetermined distance

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from the pre-planned lateral route". Support for claim 20 can be found at least at paragraphs 32-34 of the application.

Considering claims 21 and 24, *Onken* fails to disclose teach or suggest automatically selecting "new waypoints from the waypoints of the preplanned route of flight as the aircraft passes the waypoints if the aircraft is inside the preset boundary of the pre-planned lateral route". Support for claim 21 and 24 can be found at least at paragraphs 32-34 of the application.

Considering claims 22 and 25, *Onken* fails to disclose, teach or suggest "determining if a return path can be built from the aircraft position to a leg associated with the new candidate active waypoint at an interception of forty five degrees while staying within a capture region is possible". (Claim 21, similar in claim 24) Specifically, *Onken* fails to disclose, teach or suggest a capture region. Support for claims 22 and 25 can be found at least at paragraphs 35-37 of the application.

Considering claim 23 and 26, *Onken* fails to disclose teach or suggest that the "virtual waypoint provides a tracking point that lies in the path of an aircraft on a forty five degree intercept path of the new candidate active waypoint". Support for claims 23 and 26 can be found at least at paragraph 38 of the application.

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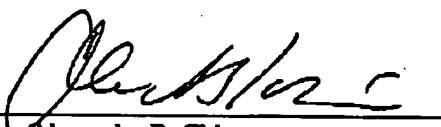
IV. CONCLUSION.

For the foregoing reasons, the present application is believed to be in condition for allowance and favorable action is respectfully requested. The Examiner is invited to telephone the undersigned at the telephone number listed below if it would in any way advance prosecution of this case.

While no other fees are believed due, the applicant hereby requests that any other required fee to maintain pendency of this case, except for the Issue Fee, be charged to Deposit Account 50-2091.

Respectfully submitted,

August 31, 2004
Date

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